UAS and SmallSat Weekly News

Contents

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Futuristic Transport: Check out these Flying Motorbikes at Amsterdam Drone Week Miriam McNabb November 29, 2019

Amsterdam Drone Week is getting ready to show two innovative flying machines designed and created by students from TU Delft University. Both are single-person aerial vehicles that look like flying motorbikes. Startups Talaria and Silverwing will give visitors a glimpse of what Personal Air Mobility will look like in future.

In recent months, a team of over 30 students from the Talaria startup worked overtime to complete their electrically powered aerial vehicle. The Hermes II prototype is 2 m tall, and the diameter of the rotors is approximately 2.6 m. This first prototype is intended to function as a single-person flying machine. The ultimate goal is to have it fly fully autonomously.

The Silverwing S1 is the brainchild of a different TU Delft team that recently completed its first test flights with a full-scale prototype. Designed to fly over 40 kms and carry a person, it is one of the most innovative personal aircraft in the industry, according to spokesperson Bernd Rietberg. The design is a hybrid between a single-person aeroplane and a helicopter. 'When flying it, you feel like you're riding a flying motorcycle – with the power of a rocket. And it can land in your back garden.'
https://dronelife.com/2019/11/29/futuristic-transport-check-out-these-flying-motorbikes-at-amsterdam-drone-week-video/

Department of Justice Updates Drone Policy Miriam McNabb November 29, 2019

The U.S. Department of Justice has updated its drone policy to minimize perceived cybersecurity risks or misuse of the technology. In an announcement Wednesday, "the Policy enables the Department of Justice's law enforcement components to safely and responsibly employ UAS technology within a framework designed to provide accountability and protect privacy and civil liberties."

"UAS technology assists the Department in protecting public safety and, most importantly, reduces risks to officers and the public," said Beth A. Williams, Assistant Attorney General for the Office of Legal Policy. "Our new policy promotes the responsible, appropriate, and effective

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use of UAS by the Department and can serve as a model for our state, local, tribal, and territorial public safety partners as they develop their own UAS programs and best practices."

The Policy defines when drones will be used, how use will be approved and what training will be required by drone operators in the department. The Policy also states that use of drones must protect the privacy and civil liberties of communities and follow existing airspace regulations. According to the DOJ announcement:

"The Policy permits the use of UAS only in connection with properly authorized investigations and activities. It also requires compliance with the Constitution and all applicable laws and regulations, including regulations issued by the Federal Aviation Administration. Department of Justice components anticipate using UAS to support crime scene response and investigation, search and rescue, and site security, among other authorized uses."
https://dronelife.com/2019/11/29/department-of-justice-updates-drone-policy/

1Dec19

States Take Flight to Survey Disaster Damage with Federal Assistance Doug Bonderud NOV262019

At the state level, drone programs are rapidly diversifying to help agencies meet increasing citizen **demand for up-to-date information and assessment, particularly after a natural disaster**.

According to James Pearce, communications officer for the North Carolina Department of Transportation, the agency now leverages a dozen drones to help identify potential infrastructure concerns. Drones do have some limitations, but they were widely used in North Carolina after hurricanes Florence and Dorian, **flying more than 200 missions and capturing over 8,000 pictures across half of all state counties**. Although clearing skies and mild weather gave the impression of stable infrastructure, post-hurricane flooding was a significant concern, with swollen rivers spilling into towns and onto highways. Here, drones were used to capture the situation in progress and encourage citizens to remain indoors.

Technological advancements — such as smaller, lighter drones and enhanced AI algorithms — are driving federal, state and municipal-level aviation adoption to **address potential infrastructure damage, assess emergency response and analyze traffic and weather patterns**.
https://statetechmagazine.com/article/2019/11/states-take-flight-survey-disaster-damage-federal-assistance?utm_source=Airborne+International+Response+Team+%28AIRT%29+News+List&utm_campaign=86e3bd0cc7-

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EMAIL_CAMPAIGN_2019_12_01_01_38&utm_medium=email&utm_term=0_2ecada6f57-86e3bd0cc7-33089729

Communicating with Drones during a Disaster Nov 23, 2019

A test flight successfully conducted by Sendai City, Japan, and Nokia tested the potential use of drones during a tsunami — or other disasters. The test flight demonstrated a Nokia drone which used a private LTE network, a mobile device standard, provided by Nokia Digital Automation Cloud. The test verified that using a private network to control and communicate with the drones is an effective means for enhancing situational awareness and communicating with the affected population during a disaster.

Sendai City is located in the center of the Tohoku Region, in Japan and its coastal areas were devastated by the tsunami caused by the Great East Japan Earthquake back in 2011.

Nokia drones using private LTE networks were conceived a few years ago with the vision of offering smart cities their own private network dedicated to city drone management. The years of research and testing brought the world's first test of a wireless connected drone using a private LTE network to Sendai City

Nokia Drone Networks have also been adopted by the Red Cross in the Philippines as a social infrastructure for disaster relief operations. https://i-hls.com/archives/96498?utm_source=Airborne+International+Response+Team+%28AIRT%29+News+List&utm_campaign=86e3bd0cc7-EMAIL_CAMPAIGN_2019_12_01_01_38&utm_medium=email&utm_term=0_2ecada6f57-86e3bd0cc7-33089729

2Dec19

Maryland police drones aid in searches, crash investigations, but raise privacy concerns Alison Knezevich November 29, 2019

The search for a missing Ellicott City man was stretching into a fifth day this summer. But when a volunteer launched his privately owned drone into the air over a densely wooded area of Columbia, a search party found the injured 44-year-old within minutes.

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The suburban police department is the latest police agency in Maryland to embrace the potential of drones as the small, buzzing aircraft — often equipped with cameras and sensors — become more affordable and easier to use. But the rapid growth of the unmanned aircraft in law enforcement has also prompted concerns from privacy and civil liberties advocates, who worry that police will shift to more intrusive uses as they expand their drone programs.

Nationwide, the number of public safety agencies using drones more than doubled between 2016 — when the Federal Aviation Administration finalized rules for non-recreational drones — and 2018, according to researchers at the Center for the Study of the Drone at Bard College in New York. Departments in every state except Rhode Island now have them, the center says.
https://www.washingtonpost.com/local/legal-issues/maryland-police-drones-aid-in-searches-crash-investigations-but-raise-privacy-concerns/2019/11/29/574a2a78-0a2f-11ea-bd9d-c628fd48b3a0_story.html

California National Guard Using Predator Drone to Assist Firefighting Efforts

CHRIS JENNEWEIN ON NOVEMBER 25, 2019 IN TECH

The guard's 163rd Attack Wing based at March Air Reserve Base in Riverside provides aerial reconnaissance using MQ-9 Predator B aircraft upon request by Cal Fire.

The aircraft use synthetic aperture radar to detect fire lines even through smoke-filled skies, and send back real-time, high-definition video using infrared cameras. Drones can be deployed throughout Southern and Central California, and can land at both U.S. Air Force and General Atomics facilities if necessary because of weather conditions.

"Providing support for natural disasters is just one more way to utilize our aircraft," said Linden Blue, CEO of General Atomics Aeronautical Systems. "GA-ASI is always pleased to know our products can and will assist when these kinds of situations occur."
https://timesofsandiego.com/tech/2019/11/25/california-national-guard-using-predator-drone-to-assist-firefighting-efforts/

Hoverfly Technologies Delivers 50th LiveSky to U.S. Government Customer

Hoverfly Technologies, Inc. Nov 26, 2019

ORLANDO, Fla. Due to the contract requirements, the customer cannot be identified but is a volume buyer, who has now received and deployed numerous LiveSky Systems for persistent intelligence, surveillance, and reconnaissance applications.

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The tethered drone is in use by government, public safety, and corporate customers for a range of ISR, security, and communication relay functions. Power y is supplied up the tether from a grid, vehicle, vessel, or generator source, allowing it to fly for an unlimited duration. Power travels up the tether while secure communications and video travel down the tether to ground stations or Ethernet networks. Since it does not use radio frequency signals to operate, it cannot be jammed, hacked, spoofed or intercepted using RF devices.

The 50th delivered system is Hoverfly's new LiveSky SkyBox configuration, which can be put in a mobile vehicle or installed on fixed infrastructure and operated beyond visual line of sight.

"Delivering the 50th LiveSky System to this customer is a testament to our $12 million investment in engineering development over the last several years. The fact that it works from moving vehicles or vessels provides customers flexibility," according to Rob Topping, Hoverfly CEO. https://www.prnewswire.com/news-releases/hoverfly-technologies-delivers-50th-livesky-to-us-government-customer-300965651.html

‘Project Vesper’ sees first drone cargo delivery of Airbus and XAG joint venture

APPLICATION DELIVERY INTERNATIONALNEWS ALEX DOUGLAS DECEMBER 2, 2019

Since July 2019, Airbus and XAG teams have combined efforts to develop a Minimal Viable Product service to start testing deliveries. The objective of the trial is to validate an automated delivery flight from the vendor to the destination and back across precisely pre-selected pathways.

In this trial, a select group of customers in Guangzhou, can order their favorite food from a nearby noodle shop through the Drone Cargo WeChat application. Meng Yu was the lucky first customer of this novel service. She ordered a Lanzhou beef noodle dish, and on receipt, said: “This is so cool. We do not have a company canteen so my colleagues and I order takeaway every day. Deliveries could never be sent upstairs in the past, but this time it just comes to me from the sky right to our roof terrace.”

Adding: “My noodles were hot as I like them and it took under 15 minutes from ordering to enjoying. Usually, I had to wait for up to an hour during peak lunch hour and often the food was cold.” https://www.commercialdroneprofessional.com/project-vesper-sees-first-drone-cargo-delivery-of-airbus-and-xag-joint-

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venture/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-318451-Commercial+Drone+Professional+DNA+-+2019-12-02

Parrot confirms details of new SDK program for enterprise partners APPLICATION BUSINESS EUROPE HEADLINE NEWS UK ALEX DOUGLAS DECEMBER 2, 2019

It currently allows developers to create their own iOS and Android applications and service programs. Now, industry partners will gain access to both hardware and software support, along with go-to-market strategy support to business partners across the globe.

Parrot's first partner in the program, Kittyhawk, will pair its new enterprise platform, Air Control, with Parrot's ANAFI hardware to provide functionality across iOS, Android and web.

Kittyhawk Air Control offers thermal camera controls, live streaming, compliance controls and fleet management for enterprise flight operations managers and operators. It's one integrated platform that connects enterprise workflows and safety controls to in-field drone operations.

It also provides authorizations to fly in controlled U.S. airspace near airports through the Low Altitude Authorization and Notification Capability, a collaboration between the Federal Aviation Administration and private industry partners.
https://www.commercialdroneprofessional.com/breaking-news-parrot-confirms-details-of-new-sdk-program-for-enterprise-partners/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-318451-Commercial+Drone+Professional+DNA+-+2019-12-02

5G mobile network supports BVLOS flights in the Baltic November 29, 2019 Jenny Beechener UAS traffic management news

A beyond visual line of sight drone flight was conducted using the 5G mobile network in the Baltic Sea region at the opening of the 2nd Annual Baltic Sea Region 5G Ecosystem Forum held in Latvia at the end of November.

The demonstration flight switched from one base station to another under remote control. The flight took place within the Adazi airport territory, 25 km away from the control point. The tests demonstrated that during the entire duration of the flight, the mobile network strength met 97.6% of the requirements for successful remote drone management.

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The test flight formed part of the 5G Techritory Forum and was intended to demonstrate the viability of safe, autonomous drone flight. https://www.unmannedairspace.info/latest-news-and-information/5g-mobile-network-supports-bvlos-flights-in-the-baltic/

Drone Pilot Protests Fine after Landing at McCarran Russ Niles December 1, 2019

A California man says he thinks the $20,000 in fines and fees he's been assessed are unfair after his runaway drone landed next to an active runway at Las Vegas's McCarran International Airport during a visit by President Donald Trump. In fact, he suggests the Secret Service took control of the drone.

The incident unfolded June 23, 2018, when Burciaga decided to create a video memento of his Vegas vacation with his DJI Phantom 3. He said about 10 minutes into the flight, he lost control of the drone, and the next time he saw it was when the FAA sent it back to him about 10 months later along with a letter laying out at least nine violations and the assessment of a $14,700 fine.

Las Vegas media got hold of Burciaga last week and he admitted to some mistakes, adding he thought a fine of $1,000 to $3,000 was fair. FAA spokesman Ian Gregor told KVVU-TV that Burciaga could have appealed the fine but didn't. He also said that given the extraordinary circumstances, the fine was justified. "This is really a very serious incident which is why we imposed such a large fine," he told the station. "In this situation, the pilot committed to a litany of serious violations and really flew the drone carelessly and recklessly." https://www.avweb.com/aviation-news/drone-pilot-protests-fine-after-it-lands-at-mccarran/?MailingID=238&utm_source=ActiveCampaign&utm_medium=email&utm_content=Thanksgiving+Tragedies%2C+FAA+Takes+Over+MAX+Certifications&utm_campaign=Thanksgiving+Tragedies%2C+FAA+Takes+Over+MAX+Certifications-Monday+December+2%2C+2019

French postal service uses drones to deliver parcels to remote Alpine villages

Haye Kesteloo Dec. 2nd 2019

A subsidiary of La Poste, DPD states that delivering packages by drone is more reliable, quicker, and safer than driving a van up a narrow mountain road in the winter when these roads are often icy or blocked by snow. A parcel delivery by drone that takes roughly 8 minutes, a similar round trip with a postal van takes

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about 30 minutes.

The drone is launched during a normal postal delivery from a special launch and landing platform that emerges from the side of the vehicle. It has six electric motors that can be charged using solar panels, and they have a built-in GPS system. The drones carry small parcels between the villages 2,493 feet above sea level in the Chartreuse Mountains. Packages need to be less than 4.4 pounds and can be no larger than 12.2 inches by 6 inches by 4 inches.

The drones have a number of safety features built-in, including an autonomous parachute system, an anti-collision system, as well as a camera and flight recorder in case anything would go wrong.

Previously, the French Postal Service had been using drones to make deliveries in the Var region of southern France. However, this is the first time drone technology has been taken to the mountains. https://dronedj.com/2019/12/02/french-postal-service-uses-drones-deliver-parcels-remote-alpine-villages/

3Dec19

NASA starts using FLARM for drone UTM November 30, 2019 Jenny Beechener UAS traffic management news

National Aeronautics and Space Administration Langley Research Center has started using FLARM traffic awareness and collision avoidance technology in its Pathfinder drone unmanned traffic management project. The goal of Pathfinder is to take separate UTM projects and combine them into a single autonomous concept to enable vehicles to fly and communicate with other autonomous vehicles in the airspace.

"Pathfinder was conceived as a way to perform a graduation exercise for a lot of the UTM projects we developed over the years," said Lou Glaab, assistant branch head for the Aeronautic Systems Engineering Branch in Langley's Engineering Directorate and Pathfinder project manager. Part of that graduation exercise is the Independent Configurable Architecture for Reliable Operations of Unmanned Systems (ICAROUS).

"We're testing things like ICAROUS, which is an autonomous sense and avoid flight management system for unmanned systems, as well as Safe-2-Ditch, which is an autonomous safe landing or autonomous crash management system," said Glaab. FLARM is being used as

part of ICAROUS both to avoid manned aircraft as well as other drones. https://www.unmannedairspace.info/latest-news-and-information/nasa-starts-using-flarm-for-drone-utm/

IBM Applies for New Patent to Block Drone Theft with Blockchain So Pak Hin 2019-12-02

In November, IBM applied for a patent to use its blockchain platform to record data and activities of drones, hoping to use technology to solve potential theft crimes. This patented technology will use an Internet of Things altimeter to track when drones leave, the height of packages, and upload data to its blockchain platform. As more people shop online, private drones will also be used to transport goods. IBM is taking precautionary measures for criminals that may steal the goods with drones.

IBM's solution is to add a sensor to the package. When the package is transported by drone, information such as the recipient and the height of the cargo will be transmitted to the blockchain platform for recording at regular intervals. The company has not stated that it will manufacture these operational devices, but mainly applies its blockchain technology to patent applications in this area so that merchants and shippers can track packages. https://www.coinsnetwork.com/2019/12/02/ibm-applies-for-new-patent-to-block-drone-theft-with-blockchain/

Dedrone Envisions Application of Counter-Small UAS Tech Mary-Louise Hoffman December 3, 2019 News, Technology

Phil Pitsky, vice president of federal operations at Dedrone, said the company has "grand visions" about the potential use of an unmanned aircraft system countermeasure technology, Inside Defense reported Friday.

He was referring to DroneDefender, an anti-small UAS system the San Francisco-based firm acquired from Battelle in October. The non-kinetic platform, which is designed to help government customers mitigate unauthorized drones, won a technology competition held last year at Nellis Air Force Base in Nevada.

Pitsky told Inside Defense in an interview that Dedrone plans to increase its workforce size during 2020 and establish a facility in Columbus, Ohio. https://www.govconwire.com/2019/12/phil-pitsky-dedrone-envisions-application-of-counter-small-uas-tech/

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Uber and NASA team on eVTOL airspace simulation October 31, 2019

Uber aims to launch eVTOL ridesharing services in 2023.

An engineering evaluation called X2 saw the NASA Air Traffic Management Exploration Urban Air Mobility team collaborate with Uber Elevate to run a simulation of eVTOL flights over Dallas-Fort Worth, Texas.

This "end-to-end" test involved a series of 40-minute simulations in which hundreds of eVTOL flights were simulated and different scenarios evaluated. NASA and Uber each submitted operations for a set of flights as part of the test, with Uber remotely connecting from its lab to the airspace management system developed by the NASA UAM team to make the simulation possible.

The system used in the X2 test was an evolution of prototype technologies the agency has tested since 2015 for the wider UAS Traffic Management (UTM) project, which is developing airspace integration requirements to enable safe and efficient low-altitude operations by drones. https://evtol.com/features/uber-nasa-evtol-airspace-simulation/

New Fixed-Wing Mapping UAS Launched 03 Dec 2019

Hitec Commercial Solutions has announced the availability of the XENO FX, a fixed-wing UAV for mapping and surveying.

Constructed from Multiplex Elapor foam, the hand-launched UAV can be controlled via an Android tablet, eliminating the need to transport bulky laptops or ground control stations. The Mission Control app is capable of flying Beyond Visual Line of Sight missions.

It is built around a Pixhawk Cube flight controller, the open-source ArduPilot drone autopilot software suite, and features an i.MX6 ARM-based processor. The modular design allows payloads to be swapped out between flights.

With the ability to fly for up to an hour at a time, the system integrates geodata into images from onboard sensors. Once it lands, images can be downloaded to the tablet via Wi-Fi and are ready for post-processing. https://www.unmannedsystemstechnology.com/2019/12/new-fixed-wing-mapping-uas-

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launched/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=98b06752f5-eBrief_2019_03_Dec&utm_medium=email&utm_term=0_6fc3c01e8d-98b06752f5-111778317

DJI joins FAA drone integration program APPLICATION DELIVERY HEADLINE NEWS UNITED STATES ALEX DOUGLAS DECEMBER 3, 2019

DJI joins several local participants involved in the Memphis International Airport program including the City of Memphis, Memphis Fire Department, Memphis Police Department, Tennessee Department of Transportation Division of Aeronautics, FedEx, AirXOS, Measure, Avitas, and 901Drones.

The drone integration program is using DJI drones to explore the safety and efficiency benefits of small unmanned aircraft system applications through FedEx aircraft inspections, delivery of FedEx aircraft parts in day and night operations, airport perimeter security and support of various airport safety inspections.

In May 2018, Memphis-Shelby County Airport Authority was selected as one of 10 lead applicants by the U.S. Department of Transportation to participate in the UAS IPP.

The goal of the UAS IPP is to conduct advanced drone operations in selected airspaces to generate data and knowledge for future policymaking.
https://www.commercialdroneprofessional.com/dji-joins-faa-drone-integration-program/?utm_medium=push&utm_source=notifications

Leonardo Invests in Solar-Powered Heavy-Lift Drone 28 Nov 2019

Leonardo has announced that it has invested in Skydweller Aero Inc., a start-up specialising in large-scale solar-powered unmanned air systems. The company is currently developing the Skydweller drone, which it claims will be the world's first fully electric unmanned aircraft capable of carrying large payloads with unlimited range and ultra-persistent endurance.

It is based on a manned aircraft platform that circumnavigated the globe in 2016. The first phase of the project will convert the aircraft into an Optionally-Piloted Vehicle by integrating autonomy algorithms and vehicle management systems. The second stage will develop the first production aircraft which will operate as an unmanned vehicle.

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It will operate from airbases around the world and travel thousands of miles to carry out land and maritime surveillance, environmental and infrastructure monitoring, backup communications and direct support for emergencies and disaster-recovery situations.

Development and construction of the aircraft will be carried out at the Skydweller facility in the Castilla-La Mancha region of Spain, with Leonardo's Aircraft division providing a dedicated team for development and engineering activities.
https://www.unmannedsystemstechnology.com/2019/11/leonardo-invests-in-solar-powered-heavy-lift-drone/?utm_source=Unmanned+Systems+Technology+Newsletter&utm_campaign=98b06752f5-eBrief_2019_03_Dec&utm_medium=email&utm_term=0_6fc3c01e8d-98b06752f5-111778317

Crop-spraying Drones Tackle Locust Swarms in Pakistan Jason Reagan December 03, 2019

The Pakistani province of Sindh has a colossal locust problem. Hometown researcher Shahzad Nahiyoon has a solution from on high.

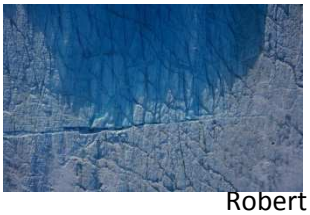
For the past 30 years, farmers in Malir have suffered devastating insect attacks without the benefit of pesticide spraying. A shortage of manned aircraft prevented aerial crop-dusting, resulting in thousands of acres of decimated crops.

Nahiyoon, a plant-protection expert, has launched a UAV crop-spray initiative, leveraging his status as the first known agricultural drone pilot in Pakistan.

His drones can spray between six to 10 hectares per hour, using tanks that can hold up to 20 liters of pesticides.

"The UAV has emerged as a capable plant protector because it has high operational efficiency, high speed and low drift," Nahiyoon said in an interview with the Express Tribune. "UAVs are more suitable for complex terrain and small-sized farms with separate plots."
https://dronelife.com/2019/12/03/crop-spraying-drones-tackle-locust-swarms-in-pakistan/

Drone observes Greenland ice sheet fracturing in real time Haye Kesteloo Dec. 3rd 2019



On Monday, a team of researchers witnessed the rapid fracturing and draining of a lake on the ice sheet. Greenland's ice sheet is the second

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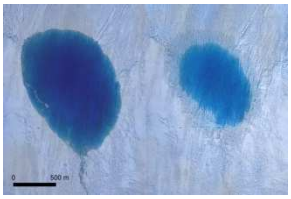
largest in the world, and the single largest contributor to global sea-level rise.

It is over 3,000 feet high, and it is normal for the surface to melt and form lakes during the summer season. This draining process is extremely difficult to observe firsthand. But a team of glaciologists from the Scott Polar Institute at the University of Cambridge got lucky when they arrived at the Store Glacier in northwestern Greenland in July 2018. Soon after their arrival, two-thirds of the lakes disappeared from the surface through a fracture in the ice sheet. Roughly 1.3 billion gallons of water drained over the course of five hours.

Photos taken with a drone clearly show the before-and-after as a dark blue oval shrinks into a smaller, shallower, and lighter blue circle. The team was able to create a 3D map by stitching together thousands of photos. The unmanned aircraft were custom-built at the Scott Polar Research Institute to withstand the extreme Arctic conditions. They were outfitted with autopilot and navigated autonomously along pre-programmed flight paths during a mission that lasted up to one hour.



The Store Glacier, which is a river of ice that slowly moves toward the ocean, moves at around 1,800 feet per year. The sudden drainage speed of the glacier's movement went from 6 to 15 feet per day. The water that drained from these lakes effectively worked as a lubricant. https://dronedj.com/2019/12/03/drone-observes-greenland-ice/#more-21747

Public Perception: Drone deliveries only supported by 23% in the UK Haye Kesteloo

Dec. 3rd 2019

A new IMechE poll has found that only 23% of adults living in the United Kingdom support deliveries by drones. This was highlighted in a report titled: *Public Perception: Drones*. The surprisingly low level of support comes from concerns that include package theft and accidents.

IMechE head of engineering Dr. Jenifer Baxter said that media coverage of incidents involving unmanned aerial vehicles also probably played a part. She continued to say that the general public, companies, and regulators need to get a better understanding of how unmanned aerial vehicles could be better integrated with existing transportations methods on the ground.

One thing that stood out in the report is that only 18 percent of people aged between 65 and 74 would be happy to receive delivery by drone, because of concerns about invasion of privacy

and accidents in the sky. However, if you look at a younger demographic, for instance, the 25 to 30-year-olds, they are much more enthusiastic with roughly 48% of them supporting drones.

According to the poll, Public Perception: Drones, the most pressing concern seems to be people stealing packages that were delivered by drone. This is what 45% of the respondents said. 39% of the respondents were worried about dropped deliveries causing accidents, while 30% mentioned damage to the delivered items to be a concern.
https://dronedj.com/2019/12/03/public-perception-drones/#more-21704

UAS by the Numbers

A few decades ago, drones were confined to science fiction or notions of the future. Today, Unmanned Aircraft Systems are rapidly becoming a part of our everyday lives. They are quickly increasing in numbers and complexity. The way we use drones ranges from recreation to commercial and military applications.

Here's a snapshot of the current state of drones in the United States:

- 1,499,839 Drones Registered
  - 416,210 Commercial
  - 1,079,610 Recreational
- 158,554 Remote Pilots Certified

Page last modified: November 19, 2019 https://www.faa.gov/uas/resources/by_the_numbers/

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Roswell wants more drone rules as cops worry about public safety Ben Brasch, The Atlanta Journal-Constitution

Police leadership want members of the Roswell City Council to give local police power to regulate unmanned aircraft similar to regulations federal authorities currently enforce near airports and elsewhere.

Roswell's councilmembers are considering a new law that would give Roswell police more power to punish people who intentionally launch or land drones from city property, including parks, without permission. The change would fall under the city code section that also punishes

disorderly conduct, being drunk in public, prostitution and other crimes that harm the public order.

The powers that police are asking for mirror the Federal Aviation Administration's drone restrictions, which is good, said state Rep. Kevin Tanner, because regulating drones on the city level can get tricky in a hurry. ??

The Dawsonville Republican successfully sponsored legislation during the 2017-18 session that blocks municipalities from making laws about drones that are more restrictive than state law. Municipal borders aren't easy to figure out when you're soaring through the sky. But respect for private and public property must be upheld, Tanner said.

"We wanted to make sure we didn't have 159 county ordinances and 500-plus city ordinances," he said. "I think (Roswell is) meeting the spirit of the regulation."
https://www.ajc.com/news/local/roswell-wants-more-drone-rules-cops-worry-about-public-safety/3O7jjY7EllqvVzWmyiqriL/

SkyGrid gets FAA seal of approval as LAANC supplier BUSINESS FAA NEWS REGULATION UNITED STATES ALEX DOUGLAS DECEMBER 4, 2019

SkyGrid, a Boeing, SparkCognition company, has been approved by the Federal Aviation Administration as a supplier of Low Altitude Authorization and Notification Capability (LAANC) services. The FAA service provides drone pilots with access to controlled airspace at or below 400 feet and air traffic professionals with visibility into where and when drones are operating.

Amir Husain, CEO of Skygrid, said: "By offering flight planning and autonomous cybersecurity in a single framework, large-scale drone applications will be more practical and accessible." It will allow customers to apply for flight approvals within the SkyGrid platform.
https://www.commercialdroneprofessional.com/skygrid-gets-faa-seal-of-approval-as-laanc-supplier/?utm_source=Email+Campaign&utm_medium=email&utm_campaign=45819-318636-Commercial+Drone+Professional+DNA+-+2019-12-04

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Force Research Lab Plans $490M Counter-sUAS R&D Contract Mary-Louise Hoffman December 4, 2019 Contract Awards, News

The Air Force Research Laboratory is seeking contractor support to develop, evaluate and demonstrate a technology to counter small unmanned aircraft systems that use commercial off-the-shelf tools.

In a notice posted Tuesday on beta.SAM.gov, AFRL said it plans to procure services through a single-award indefinite-delivery/indefinite-quantity contract worth potentially $490M over six years. Main goals of the project are to develop technology platforms according to user requirements, deliver operational prototypes for user evaluation and feedback and establish an acquisition mechanism for limited product quantities. The proposed IDIQ could include hardware, software, documentation and report orders.

AFRL added it will host an industry day to discuss the C-sUAS acquisition plan with interested vendors ahead of the issuance of a draft request for proposals in the first quarter of 2020.
https://www.govconwire.com/2019/12/air-force-research-lab-plans-490m-counter-suas-rd-contract/

Boeing, Kitty Hawk Rebrand Joint eVTOL Project Kate O'Connor December 3, 2019

A joint venture between Boeing and electric transportation solutions company Kitty Hawk Corporation aimed at developing Kitty Hawk's autonomous, all-electric vertical takeoff and landing air taxi, Cora, got a new name on Monday. Now called Wisk Aero, the Mountain View, California-based venture will be led by Gary Gysin, who previously held the position of CEO at Boeing subsidiary Liquid Robotics.

In keeping with the new brand, Kitty Hawk's New Zealand branch, formerly called Zephyr Airworks, is now Wisk New Zealand. Wisk says Cora has currently logged more than 1,000 flights, and the company is in the process of demonstrating its proof of concept in New Zealand.

Kitty Hawk has also partnered with Air New Zealand to look into creating an air taxi service. Cora has a range of approximately 25 miles with reserves and speed of about 86 knots.
https://www.avweb.com/recent-updates/evtols-urban-mobility/boeing-kitty-hawk-rebrand-joint-evtol-project/?MailingID=242&utm_source=ActiveCampaign&utm_medium=email&utm_content=Mooney+Reopens+Kerrville+Factory%2C+Florida+Mayor+Wants+No+Such+MAX&utm_campaign=Mooney+Reopens+Kerrville+Factory%2C+Florida+Mayor+Wants+No+Such+MAX+-+Wednesday+December+4%2C+2019

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eHang: Getting Close to Commercial Applications in Drone Taxis Miriam McNabb December 04, 2019

Andreas Perotti of eHang says that the company has not only moved beyond prototypes and proof of concept, they're very close to full commercial applications. In China, where regulations allow, thousands of flights are taking place safely. The manufacturing for the vehicle is established and ready to go. Most importantly, the company has lined up thousands of customer pre-orders.

"The whole process chain needs to be very lean to make it affordable," says Perotti. While the current model will sell for about 300,000 Euro, Perotti says the next versions could be sold for the same price as an expensive sports car.

While there are multiple players in the passenger drone space, eHang is one of the first. Perotti says that at this stage of the market, Urban Air Mobility companies need to work together. The aircraft are ready. The software and the hardware exist. "We need the ecosystem – the takeoff and landing infrastructure, the maintenance infrastructure, the regulations. These are problems. But they are solvable." Fixing that will take the cooperation of everyone in the drone industry, regulators and media. "We need to take everyone with us on the journey of urban air mobility," says Perotti. https://dronelife.com/2019/12/04/ehang-getting-close-to-commercial-applications-in-drone-taxis/

Chula Vista Police is the first in the world to use Skydio 2 drones Haye Kesteloo Dec. 4th 2019

The Chula Vista Police Department is the first in the world to use the Skydio 2 drones that are made in Redwood City, California (not China). Eight CVPD officers have been trained, licensed, and FAA certified as pilots and have been using the drones for the last four weeks.

This drone helps us do a great job every single time and keeps our officers safe," Chula Vista Police Dept Capt. Vern Sallee said.

"Oftentimes we don't know where entry is made of burglary, so we have to check the entire perimeter, but we'll check the roof of a

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building, so this has several different cameras on the top and on the bottom of it."

The police department said they are on top of addressing any privacy concerns. *"We don't do general patrol. We don't use them for surveillance. If you see a Chula Vista PD drone, it is responding to an emergency."* The drone program started in 2015 with all drone equipment valued at about $50,000.

In October, we reported on how the Chula Vista Police Department used drones to assist in 130 arrests. We suspect this number will go up quickly with the addition of the Skydio 2 to their equipment. https://dronedj.com/2019/12/04/chula-vista-police-first-world-skydio-2-drones/

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How Drones Can 'Re-Green' The Planet Jess Brown December 5, 2019

UK based company Dendra has announced that it plans to plant 500 billion trees by 2060 by using AI and drones. A drone can plant two trees per second, according to the company.

Dendra estimates that it would take just 400 teams of two drone operators, with 10 drones per team, to plant 10 billion trees each year, at a much lower cost than the traditional method of planting by hand.

Susan Graham, CEO of Dendra Systems, comments: "The challenge we're tackling is a complex one and working with a team of passionate engineers, plant scientists, drone operators, we came up with this idea to use automation and digital intelligence to plant billions of trees. It represents a new 'step-change' in how we think about global ecosystem restoration. We need to use technology to scale up our restoration efforts, and the scale we're talking about is tens of billions of trees every year. We'll be able to see the ecosystems that we've restored from space."

Dendra believes its technology – combined with speed and accuracy – would enable governments to restore forest 150 times faster than planting by hand, and up to 10 times cheaper. https://www.coverdrone.com/how-drones-can-re-green-the-planet/?utm_source=Coverdrone+email+subscribers&utm_campaign=5bf3c4281c-Coverdrone+Email+Campaign+21.11.19_COPY_01&utm_medium=email&utm_term=0_3033eb7817-5bf3c4281c-113470153

LA News Helicopter Likely Struck By Drone Kate O'Connor December 5, 2019

A news helicopter operated by KABC-TV in Los Angeles, California, was struck by an object believed to be a drone at approximately 7:15 p.m. local time on Wednesday. The helicopter, a Eurocopter AS350 B2, made a precautionary landing following the strike. The tail of the aircraft was damaged, but no injuries were sustained.

"This could have been a disaster & we are glad everyone is okay," the Los Angeles Police Department said via Twitter. The LAPD also pointed to a 2015 Los Angeles ordinance that prohibits the operation of civilian unmanned aircraft within five miles of an airport, more than 400 feet above the earth's surface or at night.

The helicopter was reportedly flying over downtown Los Angeles at about 1,100 feet AGL at the time of the incident. The identity of the object that struck the aircraft has not yet been confirmed, and the Los Angeles Police Department is investigating.
https://www.avweb.com/aviation-news/la-news-helicopter-likely-struck-by-drone/?MailingID=243&utm_source=ActiveCampaign&utm_medium=email&utm_content=News+Helicopter+Likely+Struck+By+Drone%2C+United+Airlines+CEO+Stepping+Down&utm_campaign=News+Helicopter+Likely+Struck+By+Drone%2C+United+Airlines+CEO+Stepping+Down+-+Friday+December+6%2C+2019

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